



# NASA Weekly Update

**Week of July 3-10, 2006**

**NASA'S Shuttle Discovery Launch Provides Spectacular Fireworks:** The Space Shuttle Discovery lifted off at 2:37:55 p.m. EDT on Tuesday, July 4, 2006, from NASA's Kennedy Space Center, Fla, on its way to



Discovery roars off the launch pad 39-B on Independence Day 2006

the International Space Station. This was the first space shuttle launch on Independence Day. For the latest information about the STS-121 mission and its crew, visit: <http://www.nasa.gov/shuttle>.

## STS-121 Mission Highlights

- **7-10:** Mission Specialists Mike Fossum and Piers Sellers will work on the International Space Station's mobile transporter and install a pump module today.
- **7-9:** Delivering equipment and supplies was the primary activity for the crews of Space Shuttle Discovery and the International Space Station. Leonardo, the Multipurpose Logistics Module that rode to orbit in the shuttle payload bay, launched with more than 7,400 pounds of new space station equipment and crew supplies.

- **7-8:** Astronauts from Space Shuttle Discovery prepared the International Space Station's rail car for restoration and tested a repair crane during a 7 hour 31 minute long spacewalk.
- **7-7:** Discovery's flight was extended by an extra day to allow a third spacewalk to test thermal protection system repair techniques and evaluate a thermal imaging camera.
- **7-6:** Space Shuttle Discovery successfully docked to the International Space Station. The hatches between the vehicles were opened at 11:30 a.m. CDT, and there is once again a crew of three aboard the International Space Station for the first time in more than three years, and for the first time ever that crew includes an American, a Russian and a European.

Commander Lindsey piloted the shuttle on what amounts to a back flip, called the Rendezvous Pitch Maneuver at about 600 feet below the station to check the thermal protection tiles on the bottom of Discovery.



Commander Lindsey pilots the Orbiter into the Rendezvous Pitch Maneuver to inspect the thermal protection tiles

- **7-5:** Astronauts on Discovery examined the ship with the Orbiter Boom Sensor System and found no evidence of damage from debris during their ride to orbit. (cont'd on pg. 2)

### NASA TV and Web Coverage of Shuttle Discovery

**Mission:** NASA is providing round-the-clock television and Internet coverage of Space Shuttle Discovery's ongoing mission, STS-121, to the International Space Station. NASA TV is webcast on the Internet at: <http://www.nasa.gov/ntv>.

**7-7: Next Space Station Crew to Discuss Mission on NASA TV:** The next residents of the International Space Station and a Japanese spaceflight participant will discuss their mission during at 3:30 p.m. EDT on Thursday, July 13, at a news conference on NASA TV.



International Space Station Expedition 14 is scheduled to launch September 14, 2006

The briefing participants are:

- Mike Lopez-Alegria, Expedition 14 commander and NASA space station science officer
- Mikhail Tyurin, Russian cosmonaut, Expedition 14 flight engineer and Soyuz commander
- Suni Williams, Flight Engineer on both Expedition 14 and 15
- Daisuke Enomoto, Japanese businessman

For NASA TV downlink and schedule information, visit: <http://www.nasa.gov/ntv>. For information about the International Space Station, its mission and crews, visit: <http://www.nasa.gov/station>.

### 7-6: NASA Uses Undersea Lab To Prep For Future Space Exploration:

NASA will test concepts for future space exploration next month by sending three astronauts and an oceanographer on a mission to an underwater laboratory off the coast of Florida. The NASA Extreme Environment Mission Operations (NEEMO) 10 project will include undersea imitating moonwalks to test concepts for mobility; using weighted backpacks to simulate lunar and Martian gravity; and techniques for communication, navigation and using remote-controlled robots on the moon's surface. For information on NEEMO, visit: <http://www.nasa.gov/neemo>.

### 7-5: NASA Satellites Find Balance in South

**America's Water Cycle:** For the first time, NASA scientists using space-based measurements have directly monitored and measured the complete cycle of water movement for an entire continent. Their research confirmed that the amount of water as rain or snow flowing into the continent from the marine atmosphere

is in balance with the estimated amount of water returned to the ocean by the continent's rivers.

## Weekly Status Reports



### Discovery (OV-103)

Mission: STS-121 - 18th International Space Station Flight (ULF1.1) - Multi-Purpose Logistics Module Vehicle: Discovery (OV-103)

Official Launch Date: July 4, 2006 at 2:38 p.m.

Expected KSC Landing Date/Time: July 17 at about 9:14 a.m.

Crew: Lindsey, Kelly, Sellers, Fossum, Nowak, Wilson and Reiter

Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

As of Flight Day 4 for STS-121, Discovery is docked to the International Space Station. The Multi-Purpose Logistics Module containing supplies and equipment for the space station has been transferred



The STS-121 and Expedition 13 crews speak to reporters during a live news conference from the International Space Station

from Discovery's payload bay to its station port. The crew will spend the next several days unloading the module and then filling it with items to be returned to Earth.

### Atlantis (OV-104)

Mission: STS-115 - 19th International Space Station Flight (12A) -P3/P4 Solar Arrays

Vehicle: Atlantis (OV-104)

Location: Orbiter Processing Facility Bay 1

Launch Date: No earlier than Aug. 28, 2006

Launch Pad: 39B.

Crew: Jett, Ferguson, Tanner, Burbank, MacLean and Stefanyshyn-Piper

Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

(cont'd on pg. 3)

In Orbiter Processing Facility bay 1, workers are busy preparing Atlantis for rollover to the Vehicle Assembly Building, currently scheduled for the last week of July. Final gap filler and tile work is under way, and final inspections of the radiator are complete. The payload bay doors are scheduled to be closed for flight late today. Workers have configured the shuttle main engines for rollover and are finishing final closeouts in the forward and aft sections. In high bay 3 of the Vehicle Assembly Building, ET-118, the external fuel tank for STS-115, has been lifted from the checkout cell, and operations to mate it to the solid rocket boosters are under way.

#### Endeavour (OV-105)

Powered-up system testing continues on Endeavour in Orbiter Processing Facility bay 2 following an extensive modification period. This week, functional testing of the atmosphere revitalization pressure control system got under way. This system maintains crew module pressure during flight. Window no. 3 installation is nearing completion, and tile-processing work continues around the external tank doors and nose landing gear doors. Gap filler removal and replacement continues in the high priority areas of the orbiter's heat shield.

Launch Vehicle: Boeing Delta II

Launch Date: NET Aug. 1, 2006

Launch Time: 2:42 - 2:44 p.m. or 3:50 - 4:05 p.m. EDT

The launch of STEREO aboard a Boeing Delta II rocket has been rescheduled to Aug. 1, pending Eastern Range availability and confirmation. Due to a faulty crane at Pad 17-B, vehicle stacking of the solid rocket boosters was not able to resume until Friday and will continue on Saturday and Sunday. Hoisting of the Delta second stage atop the first stage is scheduled for Tuesday, July 11. On Wednesday, the payload fairing will be lifted into the pad clean room. For previous status reports, visit:

<http://www.nasa.gov/centers/kennedy/launchingrockets/status/2006>.



### Upcoming Events

--July 17: Space Shuttle Discovery returns to Earth

--July 20: Mars Viking Anniversary Event in the Rayburn Foyer

--NET Aug 1: STEREO launch

--NET Aug 28: Space Shuttle Atlantis's STS-115 mission

**Please send A Look at NASA Newsletter to me.**

Name \_\_\_\_\_ Address \_\_\_\_\_

Title \_\_\_\_\_ City \_\_\_\_\_

E-mail address (required) \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Work Phone \_\_\_\_\_ Home Phone \_\_\_\_\_

Please print and Fax to (202) 358-4340  
or e-mail [Lisa.Gibson@nasa.gov](mailto:Lisa.Gibson@nasa.gov)